

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A computer program product, tangibly embodied in a computer-readable storage medium, the computer program product comprising instructions operable to cause data processing apparatus to perform operations comprising:

detecting multiple changes to a user interface of a computer program, the user interface having multiple user interface elements, each change being a change to one of the multiple user interface elements;

generating a rendering request for each change, each rendering request specifying the user interface element that has changed and a type of modification to be performed on the user interface element; and

filtering the rendering requests to eliminate redundant rendering requests, the redundant rendering requests being identical to or a subset of another rendering request.

2. (Original) The product of claim 1, wherein each rendering request is a request to modify a data structure representing the user interface.

3. (Original) The product of claim 2, wherein the data structure is a document object model representation of the user interface.

4. (Original) The product of claim 1, wherein:

the type of modification is a complete re-rendering of the user interface element.

5. (Currently Amended) The product of claim 1, wherein:

a first one of the user interface elements comprises multiple attributes; and

the type of modification a first one of the rendering requests specifies ~~[[is]]~~ an update of one or more, but not all, of the attributes of the first user interface element.

6. (Currently Amended) The product of claim 1, wherein the operations further comprise:

rendering the user interface based on the filtered rendering requests.

7. (Currently Amended) An apparatus comprising:

means for detecting multiple changes to a user interface of a computer program, the user interface having multiple user interface elements, each change being a change to one of the multiple user interface elements;

means for generating a rendering request for each change, each rendering request specifying the user interface element that has changed and a type of modification to be performed on the user interface element; and

means for filtering the rendering requests to eliminate redundant rendering requests, the redundant rendering requests being identical to or a subset of another rendering request.

8. (Original) The apparatus of claim 7, wherein each rendering request is a request to modify a data structure representing the user interface.

9. (Currently Amended) The apparatus of claim ~~[[7]]~~ 8, wherein the data structure is a document object model representation of the user interface.

10. (Original) The apparatus of claim 7, wherein:

the type of modification is a complete re-rendering of the user interface element.

11. (Currently Amended) The apparatus of claim 7, wherein:

a first one of the user interface elements comprises multiple attributes; and

~~the type of modification~~ a first one of the rendering requests specifies ~~[[is]]~~ an update of one or more, but not all, of the attributes of the first user interface element.

12. (Currently Amended) The apparatus of claim 7, further comprising:

means for rendering the user interface based on the filtered rendering requests.

13. (Currently Amended) A system comprising:

a processor;

a Web page rendered by the processor in a Web browser, the Web page including one or more user interface elements;

a document object model representation of the Web page, and

a framework running in the browser, the framework including:

one or more trees that store the visualization of the Web page, each user interface element being associated with a portion of the document object model representation and with a portion of the tree; and

a filtering mechanism for filtering redundant rendering requests, the redundant rendering requests each being identical to or a subset of another rendering request,

wherein each rendering request specifies specifying a user interface element that has changed and a type of modification to be performed on the portion of the document object model representation associated with the specified user interface element.

14. (Original) The system of claim 13, wherein the trees include a UI tree, a data tree, or both.

15. (New) The computer program product according to claim 1, wherein:

a first rendering request and a second rendering request each specify a first user interface element;

the first rendering request specifies a complete re-rendering of the first user interface element;

the second rendering request specifies re-rendering a subset of attributes of the first user interface element; and

the second rendering request is filtered as a redundant rendering request.

16. (New) The computer program product according to claim 1, wherein:

the user element is a text field, radio button, table, tray, or menu.

17. (New) The computer program product according to claim 5, wherein the attribute specified by the first rendering request is a color attribute of the first user interface element.